

State of Washington

2000 Combined Actuarial Valuation

Public Employees Retirement System - December 31, 2000
School Employees Retirement System - December 31, 2000
Law Enforcement Officers and Fire Fighters Retirement System - December 31, 2000
Washington State Patrol Retirement System - December 31, 2000
Teachers Retirement System - June 30, 2000



WASHINGTON STATE LEGISLATURE
Office of the State Actuary

Gerald B. Allard, State Actuary

**Report of the Combined
Actuarial Valuation
As of December 31, 2000**

This report presents the actuarial valuation results of Washington state's five main public employee retirement systems: the Public Employees Retirement System (PERS); the Teachers Retirement System (TRS); the School Employees Retirement System (SERS); the Law Enforcement Officers and Fire Fighters Retirement System (LEOFF); and the Washington State Patrol Retirement System (WSP). It was prepared in accordance with actuarial practices and procedures recognized by the American Academy of Actuaries and meets statutory requirements set forth in Chapter 41.45 RCW.

These valuations reflect the benefits and liabilities of the systems as contained in Chapters 41.26; 41.32; 41.35; 41.40; and 43.43 RCW. Data shows the status of the PERS, SERS, LEOFF and WSP systems as of December 31, 2000. Data for TRS shows the system's status as of June 30, 2000.

Assumptions of investment return, inflation, salary and membership growth used in these valuations were set by the legislature in 2001. Demographic assumptions were developed by the Office of the State Actuary. These assumptions are reasonable and represent expected future experience.

Member and beneficiary data was provided by the Department of Retirement Systems. Comparisons were made of the current to prior year's data. A series of additional data checks were performed. From these analysis it was determined the data is sufficient and reliable for the purposes of the valuations. Unaudited asset information was provided by the State Investment Board. The assets for TRS were audited.

Legislation enacted after the 2000 valuation date have been included in the contribution rates and are described in Section VII.

Respectfully submitted,

Gerald B. Allard
State Actuary

FAX: (360) 586-8135
TDD: 1-800-635-9993

2420 Bristol Court S.W., Suite 101
P.O. Box 40914
Olympia, WA 98504-0914
(360) 753-9144

Larry Risch, M.A.A.A.
Deputy State Actuary

E-MAIL: actuary_st@leg.wa.gov

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Section I

Contribution Rates

Contribution Rates

Valuation Contribution Rates

	Plan 1		Plan 2/3	
	1999	2000	1999	2000
PERS				
Member	6.00%	6.00%	1.70%	1.05%
Employer (<i>Normal Cost</i>)	1.70%	1.05%	1.70%	1.05%
Employer (<i>Plan 1 UAAL</i>)	1.51%	0.58%	1.51%	0.58%
Total Employer	3.21%	1.63%	3.21%	1.63%
TRS				
Member	6.00%	6.00%	*2.15%	*1.29%
Employer (<i>Normal Cost</i>)	2.59%	1.76%	2.59%	1.76%
Employer (<i>Plan 1 UAAL</i>)	2.79%	0.62%	2.79%	0.62%
Total Employer	5.38%	2.38%	5.38%	2.38%
SERS				
Member	N/A	N/A	N/A	0.46%
Employer (<i>Normal Cost</i>)	N/A	N/A	N/A	0.64%
Employer (<i>PERS Plan 1 UAAL</i>)	N/A	N/A	N/A	0.58%
Total Employer	N/A	N/A	N/A	1.22%
LEOFF				
Member	0.00%	0.00%	5.77%	4.02%
Employer	0.00%	0.00%	3.46%	2.41%
State (<i>Normal Cost</i>)	0.00%	0.00%	2.31%	1.61%
State (<i>Plan 1 UAAL</i>)	0.00%	0.00%	0.00%	0.00%
Total State	0.00%	0.00%	2.31%	1.61%
WSP				
Member	7.00%	2.00%	N/A	N/A
Employer (<i>State</i>)	0.00%	0.00%	N/A	N/A

*Applies to TRS 2 Only.

Contribution rates resulting from the 1999 and 2000 actuarial valuations are expressed as a percentage of salary.

The 2000 contribution rates reflect legislation enacted during the 2001 legislative sessions including the new economic assumptions (8% interest, 4.5% salary inflation).

Development of Employer/State Contribution Rates

	PERS		TRS		SERS	WSP
	<i>Plan 1</i>	<i>Plan 2</i>	<i>Plan 1</i>	<i>Plan 2/3</i>	<i>Plan 2/3</i>	<i>Plan 1</i>
Total Normal Cost	7.05%	2.10%	7.76%	*3.05%	*1.10%	(22.35)%
Less Employee Contribution	6.00%	1.05%	6.00%	*1.29%	*0.46%	2.00 %
Employer Contribution	1.05%	1.05%	1.76%	1.76%	0.64%	(24.35)%
Cost to Amortize UAAL	0.58%	0.58%	0.62%	0.62%	0.58%	N/A
Total Employer Contribution Rate	1.63%	1.63%	2.38%	2.38%	1.22%	0.00%

*Applies to Plan 2 Only.

	LEOFF	
	<i>Plan 1</i>	<i>Plan 2</i>
Total Normal Cost	0.00%	8.04%
Less Employee Contribution	0.00%	4.02%
Less Employer Contribution	0.00%	2.41%
State Contribution	0.00%	1.61%
Cost to Amortize UAAL	0.00%	0.00%
Total State Contribution Rate	0.00%	1.61%

Actuarial Valuation Methods

Plan 2 and Plan 3

The Aggregate Actuarial Cost Method was used to calculate Plan 2 and Plan 3 contribution rates. The unfunded actuarial present value of fully projected liability is amortized over the future payroll of the active group. The entire contribution is considered normal cost and no unfunded actuarial accrued liability exists.

Plan 1

The actuarial cost method used to develop contribution rates for the Plan 1 systems is a variation of the Entry Age Cost Method. The normal cost of each type of benefit provided by the Plan 1 systems is determined by the contribution rate which, if paid from the average new member's entry date to retirement, would fully prefund that benefit. Since all new entrants became members of Plan 2 or Plan 3, we have used the aggregate Plan 2/3 normal cost in Plan 1.

LEOFF Plan 1 benefits are fully funded, so no State contribution is required.

Contributions toward the PERS and TRS Plan 1 unfunded actuarial accrued liabilities were developed as the level percent of expected future payroll needed to amortize the liability by June 30, 2024. Future payroll includes current members in both Plan 1, Plan 2 and Plan 3, as well as new hires. The PERS employer costs are the same for Plan 1 and Plan 2 members, using this method. Similarly, the TRS employer costs are the same for Plan 1, Plan 2 and Plan 3. Since School District employees remain in PERS Plan 1, SERS employers continue to contribute toward the PERS 1 unfunded as provided by statute.

Washington State Patrol

The actuarial cost method used to develop contribution rates is the Aggregate Cost Method. The previous valuation used the Entry Age Cost Method.

Adoption of contribution rates

The 1999 Valuation Rates were scheduled to be charged in 2001. However, the laws of 2001 adopted contribution rates in 2001 based on new economic assumptions.

The 2000 Valuation Rates are calculated to be effective in 2003 but have not been adopted.

Current legislation requires the adoption of new rates every odd-numbered year for the biennium starting two years later.

Development of Normal Cost 3 Contribution Rates

<i>(Dollars in millions)</i>	PERS 2	TRS 2/3	SERS 2/3	LEOFF 2	WSP 1
Actuarial Present Value of Fully Projected Benefits	\$ 11,890	\$ 3,826	\$ 1,963	\$ 3,225	\$ 614
Valuation Assets	10,749	3,250	1,853	2,459	712
Unfunded Actuarial Present Value of Fully Projected Benefits	\$ 1,142	\$ 576	\$ 110	\$ 765	\$ (98)
Employer Gain-sharing Responsibility	N/A	100	13	N/A	N/A
Contributions to 2003	276	155	46	188	3
	\$ 866	\$ 321	\$ 51	\$ 577	\$ (101)
Present Value of Projected Salaries to Current Members (PVS)					
Plan 1 PVS	N/A	N/A	N/A	N/A	454
Plan 2 PVS	41,289	3,269	3,800	7,193	N/A
Plan 3 PVS	N/A	18,249	3,514	N/A	N/A
2 x Plan 2 PVS + Plan 3 PVS	N/A	24,786	11,114	N/A	N/A
Employee Contribution Rate	1.05%	*1.29%	*0.46%	4.02%	2.00%
Employer Contribution Rate	1.05%	1.76%	0.64%	2.41%	(24.35)%
State Contribution Rate	N/A	N/A	N/A	1.61%	N/A
Total Contribution Rate*	2.10%	*3.05%	*1.10%	8.04%	(22.35)%

Note: Totals may not agree due to rounding.

*Applies to Plan 2 Only.

Development of Contribution Rate to Amortize the Unfunded Actuarial Accrued Liability (UAAL)

<i>(Dollars in Millions)</i>	PERS 1	TRS 1	LEOFF 1
Actuarial Present Value of Fully Projected Benefits	\$ 12,367	\$ 10,234	\$ 4,110
Valuation Assets	11,111	9,372	5,440
Actuarial Present Value of Future Normal Costs	404	383	0
UAAL	852	479	(1,330)
Expected UAAL Contributions to 2003	166	188	0
Remaining UAAL	\$ 686	\$ 291	\$ (1,330)
Present Value of Projected Salaries beyond 2003	\$118,512	\$ 47,301	\$ 14,590
Contribution Rate to Amortize the remaining UAAL	0.58%	0.62%	*(9.11)%

Note: Totals may not agree due to rounding

**LEOFF 1 is fully funded so no UAAL contributions required.*

Section II

Actuarial Determinations

Section II -

Actuarial Determinations

Actuarial Present Value of Fully Projected Benefits

(Dollars in millions)	PERS			TRS			SERS
	Plan 1	Plan 2	Total	Plan 1	Plan 2/3	Total	Plan 2/3
ACTIVE MEMBERS:							
Retirement	\$ 4,952	\$ 9,658	\$ 14,610	\$ 4,581	\$ 3,398	\$ 7,980	\$ 1,336
Vesting	27	330	358	44	124	168	72
Death Annuity	37	138	175	32	51	83	18
Disability	41	162	203	21	17	38	22
Uniform COLA	406	—	406	335	—	335	—
Return of Contributions:							
Termination	22	332	355	8	12	20	35
Death	39	174	213	31	16	47	13
Total Active	\$ 5,525	\$ 10,795	\$ 16,320	\$ 5,052	\$ 3,618	\$ 8,670	\$ 1,496
INACTIVE MEMBERS:							
Terminated	\$ 173	\$ 557	\$ 730	\$ 184	\$ 119	\$ 304	\$ 16
Service Retirement	5,260	485	5,745	3,958	59	4,016	2
Disability	105	34	139	87	3	90	0
Survivor	321	19	340	162	2	164	0
Uniform COLA	842	—	842	673	—	673	—
Total Inactive	\$ 6,700	\$ 1,096	\$ 7,796	\$ 5,065	\$ 183	\$ 5,248	\$ 18
Sub-Total	\$ 12,226	\$ 11,890	\$ 24,116	\$ 10,117	\$ 3,802	\$ 13,918	\$ 1,514
Gain-sharing	141	—	141	118	24	142	17
Transfer to DC	—	—	—	—	—	—	431
2000 Total	\$ 12,367	\$ 11,890	\$ 24,257	\$ 10,234	\$ 3,826	\$ 14,060	\$ 1,963
1999 Total	\$ 12,494	\$ 13,335*	\$ 25,828	\$ 10,382	\$ 3,661	\$ 14,043	—

Note: Totals may not agree due to rounding.

*Before PERS/SERS split.

Actuarial Present Value of Fully Projected Benefits - *Continued*

(Dollars in millions)	LEOFF			WSP
	Plan 1	Plan 2	Total	Plan 1
ACTIVE MEMBERS:				
Retirement	\$ 501	\$ 3,006	\$ 3,506	\$ 328
Vesting	1	33	34	5
Death Annuity	14	15	29	10
Disability	291	16	308	0
Uniform COLA	—	—	—	—
Return of Contributions:				
Termination	0	57	57	1
Death	3	42	46	1
Total Active	\$ 811	\$ 3,169	\$ 3,980	\$ 343
INACTIVE MEMBERS:				
Terminated	\$ 13	\$ 35	\$ 47	\$ 3
Service Retirement	1,063	18	1,081	254
Disability	1,902	2	1,904	1
Survivor	322	0	322	11
Uniform COLA	—	—	—	—
Total Inactive	\$ 3,299	\$ 55	\$ 3,355	\$ 270
Sub-Total	\$ 4,110	\$ 3,225	\$ 7,334	\$ 614
Gain-sharing	—	—	—	—
Transfer to DC	—	—	—	—
2000 Total	\$ 4,110	\$ 3,225	\$ 7,334	\$ 614
1999 Total	\$ 4,262	\$ 3,110	\$ 7,372	\$ 545

Note: Totals may not agree due to rounding.

Actuarial Present Value of Credited Projected Benefits

(Dollars in millions)	PERS			TRS			SERS
	Plan 1	Plan 2	Total	Plan 1	Plan 2/3	Total	Plan 2/3
ACTIVE MEMBERS:							
Retirement	\$ 4,041	\$ 4,025	\$ 8,066	\$ 3,809	\$ 1,334	\$ 5,143	\$ 552
Vesting	20	168	188	38	66	103	35
Death Annuity	30	60	91	27	21	48	8
Disability	34	83	117	18	9	27	10
Uniform COLA	331	—	331	278	—	278	—
Return of Contributions:							
Termination	16	154	170	6	8	13	14
Death	32	84	116	25	9	34	6
Total Active	\$ 4,504	\$ 4,575	\$ 9,079	\$ 4,201	\$ 1,446	\$ 5,647	\$ 625
INACTIVE MEMBERS:							
Terminated	\$ 173	\$ 557	\$ 730	\$ 184	\$ 119	\$ 304	\$ 16
Service Retirement	5,260	485	5,745	3,958	59	4,017	2
Disability	105	34	139	87	3	90	0
Survivor	321	19	340	162	2	164	0
Uniform COLA	842	—	842	673	—	673	—
Total Inactive	\$ 6,700	\$ 1,096	\$ 7,796	\$ 5,604	\$ 183	\$ 5,248	\$ 18
Sub-Total	\$ 11,204	\$ 5,671	\$ 16,875	\$ 9,265	\$ 1,630	\$ 10,895	\$ 643
Gain-sharing	133	—	133	111	24	135	17
Transfer to DC	—	—	—	—	—	—	431
2000 Total	\$ 11,337	\$ 5,671	\$ 17,008	\$ 9,376	\$ 1,654	\$ 11,030	\$ 1,091
1999 Total	\$ 11,265	\$ 6,019*	\$ 17,284	\$ 9,359	\$ 1,547	\$ 10,906	—

Note: Totals may not agree due to rounding.

*Before PERS/SERS split.

Actuarial Present Value of Credited Projected Liability - *Continued*

(Dollars in millions)	LEOFF			WSP
	<i>Plan 1</i>	<i>Plan 2</i>	<i>Total</i>	<i>Plan 1</i>
ACTIVE MEMBERS:				
Retirement	\$ 436	\$ 1,396	\$ 1,831	\$ 189
Vesting	1	17	19	2
Death Annuity	12	8	20	5
Disability	258	8	267	0
Uniform COLA	—	—	—	—
Return of Contributions:				
Termination	0	23	23	0
Death	3	21	25	1
Total Active	\$ 711	\$ 1,474	\$ 2,185	\$ 198
INACTIVE MEMBERS:				
Terminated	\$ 13	\$ 34	\$ 47	\$ 4
Service Retirement	1,063	18	1,081	254
Disability	1,902	2	1,904	1
Survivor	322	0	322	11
Uniform COLA	—	—	—	—
Total Inactive	\$ 3,299	\$ 55	\$ 3,354	\$ 270
Sub-Total	\$ 4,010	\$ 1,528	\$ 5,539	\$ 468
Gain-sharing	—	—	—	—
Transfer to DC	—	—	—	—
2000 Total	\$ 4,010	\$ 1,528	\$ 5,539	\$ 468
1999 Total	\$ 4,136	\$ 1,408	\$ 5,544	\$ 417

Note: Totals may not agree due to rounding.

Development of Funding Ratio

(Dollars in millions)					
	PERS		TRS		SERS
	Plan 1	Plan 2	Plan 1	Plan 2/3	Plan 2/3
Credited Projected Liability	\$ 11,337	\$ 5,671	\$ 9,376	\$ 1,654	\$ 1,091
Valuation Assets	11,111	10,749	9,372	3,250	1,853
Unfunded Liability	\$ 227	\$ (5,078)	\$ 4	\$ (1,596)	\$ (762)
Funding Ratio:					
2000*	98%	190%	100%	196%	170%
1999	93%	189%	93%	188%	159%
1998	86%	191%	86%	185%	147%
1997*	83%	187%	82%	181%	140%
1996	73%	157%	70%	144%	128%
1995	68%	150%	65%	136%	119%
1994 *	67%	142%	65%	130%	110%
1993	70%	142%	62%	126%	110%
1992	67%	139%	59%	127%	108%
1991	67%	149%	59%	131%	106%
1990	66%	154%	60%	140%	105%
1989*	65%	162%	58%	144%	103%
1988	66%	165%	59%	143%	102%
1987	71%	175%	58%	135%	95%
1986	63%	162%	50%	125%	87%

Note: Totals may not agree due to rounding.

*Assumptions changed.

Development of Funding Ratio – (Continued)

(Dollars in millions)	LEOFF		WSP
	<i>Plan 1</i>	<i>Plan 2</i>	<i>Plan 1</i>
Credited Projected Liability	\$ 4,010	\$ 1,528	\$ 468
Valuation Assets	5,440	2,459	712
Unfunded Liability	\$ (1,430)	\$ (931)	\$ (244)
Funding Ratio:			
2000*	136%	161%	152%
1999	125%	154%	159%
1998	117%	160%	147%
1997*	108%	155%	140%
1996	89%	130%	128%
1995	80%	126%	119%
1994 *	68%	124%	110%
1993	68%	127%	110%
1992	65%	128%	108%
1991	66%	154%	106%
1990	65%	153%	105%
1989*	65%	158%	103%
1988	66%	153%	102%
1987	69%	157%	95%
1986	57%	142%	87%

Section III

Demographic Changes in Membership

Demographic Changes in Membership

Summary of Demographic Changes

	1999			2000		
	Plan 1	Plan 2	Total	Plan 1	Plan 2	Total
PERS:						
<u>Active Members</u>	28,168	168,214	196,382	25,833	126,428	152,261
Total Salaries (millions)	\$ 1,184	\$ 5,546	\$ 6,730	\$ 1,132	\$ 4,964	\$ 6,096
Average Age	53.0	43.4	44.7	53.5	43.1	44.9
Average Service	20.1	7.4	9.2	20.5	7.9	10.0
Average Salary	\$ 42,045	\$ 32,971	\$ 34,272	\$ 43,827	\$ 39,265	\$ 40,039
<u>Terminated Members</u>						
Vested	3,295	12,838	16,133	3,220	14,094	17,314
"Non-Vested"	7,628	64,879	72,507	7,704	71,330	79,034
<u>Retirees</u> <i>(including L&I disabled)</i>						
All Retirees	52,515	6,765	59,280	53,161	7,927	61,088
Avg. Monthly Benefit, All Retirees	\$ 967	\$ 483	\$ 912	\$ 1,040	\$ 517	\$ 972
New "Service Retirees"	2,172	1,005	3,177	2,347	1,073	3,420
Avg. Monthly Benefit, New "Service Retirees"	\$ 1,820	\$ 614	\$ 1,682	\$ 1,918	\$ 676	\$ 1,756

Summary of Demographic Changes - *Continued*

	1999				2000			
	Plan 1	Plan 2	Plan 3	Total	Plan 1	Plan 2	Plan 3	Total
TRS:								
<u>Active Members</u>	18,737	8,663	35,284	62,684	17,222	8,356	38,280	63,858
Total Salaries (millions)	\$ 984	\$ 373	\$ 1,446	\$ 2,803	\$ 957	\$ 386	\$ 1,657	\$ 3,000
Average Age	52.8	46.1	39.8	44.6	53.4	47.0	40.1	44.6
Average Service	22.9	9.2	7.8	12.5	23.3	10.0	8.0	12.4
Average Salary	\$ 52,540	\$ 43,022	\$ 40,979	\$ 44,717	\$ 55,580	\$ 46,230	\$ 43,288	\$ 46,988
<u>Terminated Members</u>								
Vested	2,071	2,180	919	5,170	1,976	2,199	1,242	5,417
"Non-Vested"	989	5,701	0	6,690	965	5,404	0	6,369
<u>Temporarily Disabled</u>	14	0	0	14	9	0	0	9
<u>Retirees</u>								
All Retirees	28,920	398	50	29,368	29,839	519	92	30,450
Avg. Monthly Benefit, All Retirees	\$ 1,233	\$ 726	\$ 295	\$ 1,225	\$ 1,294	\$ 773	\$ 323	\$ 1,282
New "Service Retirees"	1,482	85	30	1,597	1,603	110	38	1,751
Avg. Monthly Benefit, New "Service Retirees"	\$ 1,796	\$ 857	\$ 355	\$ 1,781	\$ 1,857	\$ 907	\$ 370	\$ 1,836

Summary of Demographic Changes - *Continued*

	1999			2000		
	Plan 2	Plan 3	Total	Plan 2	Plan 3	Total
SERS:						
<u>Active Members</u>	0	0	0	25,714	22,011	47,725
Total Salaries (millions)	\$ 0	\$ 0	\$ 0	\$ 526	\$ 486	\$ 1,012
Average Age	0.0	0.0	0	45.7	45.2	45.5
Average Service	0.0	0.0	0	6.2	7.5	6.8
Average Salary	\$ 0	\$ 0	\$ 0	\$ 20,466	\$ 22,073	\$ 21,207
<u>Terminated Members</u>						
Vested	0	0	0	537	196	733
"Non-Vested"	0	0	0	1,461	0	1,461
<u>Retirees</u> <i>(including L&I disabled)</i>						
All Retirees	0	0	0	27	0	27
Avg. Monthly Benefit, All Retirees	\$ 0	\$ 0	\$ 0	\$ 467	\$ 0	\$ 467
New "Service Retirees"	0	0	0	25	0	25
Avg. Monthly Benefit, New "Service Retirees"	\$ 0	\$ 0	\$ 0	\$ 492	\$ 0	\$ 492

Summary of Demographic Changes - *Continued*

	1999			2000		
	Plan 1	Plan 2	Total	Plan 1	Plan 2	Total
LEOFF:						
<u>Active Members</u>	1,743	12,713	14,456	1,499	13,133	14,632
Total Salaries (millions)	\$ 106	\$ 725	\$ 831	\$ 95	\$ 780	\$ 875
Average Age	51.2	37.8	39.4	51.9	38.3	39.7
Average Service	26.2	9.2	11.2	26.9	9.7	11.5
Average Salary	\$ 60,683	\$ 57,031	\$ 57,471	\$ 63,296	\$ 59,410	\$ 59,808
<u>Terminated Members</u>						
Vested	40	216	256	31	248	279
"Non-Vested"	93	875	968	92	940	1,032
<u>Retirees</u>						
All Retirees	7,623	100	7,723	7,780	143	7,923
Avg. Monthly Benefit, All Retirees	\$ 2,420	\$ 791	\$ 2,399	\$ 2,516	\$ 921	\$ 2,487
New "Service and Disability Retirees"	263	23	286	252	35	287
Avg. Monthly Benefit, New "Service and Disability Retirees"	\$ 2,879	\$ 982	\$ 2,854	\$ 3,122	\$ 1,206	\$ 3,087

Summary of Demographic Changes - *Continued*

	1999	2000
	<u>Total</u>	<u>Total</u>
WSP:		
<u>Active Members</u>	968	1,013
Total Salaries (millions)	\$ 56	\$ 58
Average Age	38.4	38.3
Average Service	12.5	12.0
Average Salary	\$ 57,496	\$ 57,745
<u>Terminated Members</u>		
Vested	15	21
"Non-Vested"	9	12
<u>Disabled Members*</u>	67	63
<u>Retirees</u>		
All Retirees	647	672
Average Monthly Benefit, All Retirees	\$ 2,405	\$ 2,514
New "Service Retirees"	35	34
Average Monthly Benefit, New "Service Retirees"	\$ 3,124	\$ 3,301

**Benefits provided outside of pension funds.*

Section IV

System Assets

Section IV -

System Assets

Valuation assets are at market value with gains (losses) recognized evenly over four years starting with the 2000 valuation year. Gains (losses) relating to years before 2020 are recognized over three years at 50%, 30% and 20%.

The gain or loss is calculated on assets held by the State Investment Board.

Valuation Assets

(Dollars in Millions)	PERS			TRS			SERS
	Plan 1	Plan 2	Total	Plan 1	Plan 2/3	Total	Plan 2/3
2000 Market Value	\$ 10,744	\$ 10,392	\$ 21,136	\$ 9,805	\$ 3,397	\$ 13,202	\$ 1,790
Deferred 2000 Gain (75%)	(573)	(545)	(1,118)	362	124	485	(96)
Deferred 1999 Gain (20%)	206	188	395	71	24	95	33
2000 Valuation Assets	\$ 11,111	\$ 10,749	\$ 21,859	\$ 9,372	\$ 3,250	\$ 12,622	\$ 1,853
2000 Gain							
Actual Return	\$ 54	\$ 42	\$ 96	\$ 1,142	\$ 390	\$ 1,533	\$ 7
Expected Return	818	769	1,586	660	225	885	136
Gain	\$ (764)	\$ (727)	\$ (1,490)	\$ 483	\$ 165	\$ 647	\$ (128)
1999 Gain							
Actual Return	\$ 1,743	\$ 1,582	\$ 3,325	\$ 963	\$ 322	\$ 1,285	\$ 279
Expected Return	712	640	1,352	609	203	812	113
Gain	\$ 1,031	\$ 942	\$ 1,973	\$ 353	\$ 119	\$ 473	\$ 166

Note: Totals may not agree due to rounding.

Valuation Assets - Continued

(Dollars in Millions)	LEOFF			WSP
	Plan 1	Plan 2	Total	Plan 1
2000 Market Value	\$ 5,260	\$ 2,378	\$ 7,638	\$ 688
Deferred 2000 Gain (75%)	(281)	(124)	(405)	(37)
Deferred 1999 Gain (20%)	102	42	144	13
2000 Valuation Assets	\$ 5,440	\$ 2,459	\$ 7,899	\$ 712
2000 Gain				
Actual Return	\$ 27	\$ 9	\$ 36	\$ 3
Expected Return	402	174	575	52
Gain	\$ (375)	\$ (165)	\$ (540)	\$ 49
1999 Gain				
Actual Return	\$ 861	\$ 351	\$ 1,212	\$ 110
Expected Return	353	141	494	45
Gain	\$ 509	\$ 209	\$ 718	\$ 65

Market Value of Total System Assets

(Dollars in millions)							
	PERS			TRS			SERS
	Plan 1 <i>Fund 631</i>	Plan 2 <i>Fund 641</i>	<i>Total</i>	Plan 1 <i>Fund 632</i>	Plan 2/3 <i>Fund 642</i>	<i>Total</i>	Plan 2/3 <i>Fund 633</i>
Assets:							
Cash & Short-Term	\$ 129	\$ 128	\$ 257	\$ 207	\$ 96	\$ 303	\$ 31
Fixed Income:							
Managed/Passive	2,848	2,750	5,598	2,359	1,007	3,366	476
Equities:							
Commingled Funds	4,756	4,592	9,348	4,704	2,008	6,712	795
Corporate Stocks	619	598	1,216	732	312	1,044	104
Venture Capital	1,014	979	1,993	721	308	1,029	170
Real Estate	816	788	1,605	659	281	941	137
Leveraged Buy-outs	530	512	1,042	416	178	594	89
<i>Total Invested Assets</i>	<u>\$ 10,713</u>	<u>\$ 10,346</u>	<u>\$ 21,059</u>	<u>\$ 9,799</u>	<u>\$ 4,190</u>	<u>\$ 13,989</u>	<u>\$ 1,801</u>
Assets Receivable:							
Non-Current	—	—	—	0	841	841	—
Collateral	—	—	—	388	166	554	—
Accrued Interest							
Receivable (to SIB)	25	24	48	54	23	78	4
Contributions							
Receivable (to DRS)	11	25	36	11	22	33	8
Gross DB & DC Assets	<u>\$ 10,749</u>	<u>\$ 10,395</u>	<u>\$ 21,144</u>	<u>\$10,253</u>	<u>\$ 5,241</u>	<u>\$ 15,494</u>	<u>\$ 1,813</u>
DC Assets	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>1,696</u>	<u>1,696</u>	<u>15</u>
2000 Gross DB Assets	<u>\$ 10,749</u>	<u>\$ 10,395</u>	<u>\$ 21,144</u>	<u>\$10,253</u>	<u>\$ 3,545</u>	<u>\$ 13,798</u>	<u>\$ 1,797</u>
Liabilities:							
Expense Fund	\$ 0	\$ 1	\$ 1	\$ 0	\$ 0	\$ 0	\$ 1
Account Payable	5	2	7	448	148	596	7
Total Liability	<u>\$ 5</u>	<u>\$ 3</u>	<u>\$ 8</u>	<u>\$ 448</u>	<u>\$ 148</u>	<u>\$ 596</u>	<u>\$ 8</u>
Net DB Assets:							
Employee Accounts	1,686	2,416	4,102	1,408	331	1,739	353
Other	9,058	7,976	17,034	8,397	3,066	11,462	1,436
Net DB Assets	<u>\$ 10,744</u>	<u>\$ 10,392</u>	<u>\$ 21,136</u>	<u>\$ 9,805</u>	<u>\$ 3,397</u>	<u>\$ 13,202</u>	<u>\$ 1,790</u>
Comparison of							
2000 Gross DB Assets	\$ 10,749	\$ 10,395	\$ 21,144	\$10,253	\$ 3,545	\$ 13,798	\$ 1,797
1999 Gross DB Assets	\$ 11,087	\$ 12,039*	\$ 23,126	\$ 9,425	\$ 3,140	\$ 12,565	—

Note: Totals may not agree due to rounding.

*Before PERS/SERS split.

Market Value of Total System Assets – Continued

(Dollars in millions)	LEOFF			WSP
	Plan 1 <i>Fund 819</i>	Plan 2 <i>Fund 829</i>	<i>Total</i>	Plan 1 <i>Fund 615</i>
<u>Assets:</u>				
Cash & Short-Term	\$ 62	\$ 35	\$ 97	\$ 8
Fixed Income:				
Managed/Passive	1,396	627	2,023	183
Equities:				
Commingled Funds	2,331	1,047	3,378	305
Corporate Stocks	303	136	440	40
Venture Capital	497	223	720	65
Real Estate	400	180	580	52
Leveraged Buy-outs	260	117	376	34
<i>Total Invested Assets</i>	<i>\$ 5,248</i>	<i>\$ 2,365</i>	<i>\$7,613</i>	<i>\$ 687</i>
Assets Receivable:				
Non-Current	—	—	—	—
Collateral	—	—	—	—
Accrued Interest				
Receivable (to SIB)	12	5	17	2
Contributions				
Receivable (to DRS)	0	7	7	0
Gross DB & DC Assets	\$ 5,260	\$ 2,378	\$7,638	\$ 688
DC Assets	—	—	—	—
2000 Gross DB Assets	\$ 5,260	\$ 2,378	\$7,638	\$ 688
<u>Liabilities:</u>				
Expense Fund	\$ 0	\$ 0	\$ 0	\$ 0
Account Payable	0	0	0	0
<i>Total Liability</i>	<i>\$ 0</i>	<i>\$ 0</i>	<i>\$ 1</i>	<i>\$ 0</i>
<u>Net DB Assets:</u>				
Employee Accounts	154	650	804	52
Other	5,106	1,727	6,833	637
<i>Net DB Assets</i>	<i>\$ 5,260</i>	<i>\$ 2,378</i>	<i>\$7,638</i>	<i>\$ 688</i>
Comparison of				
2000 Gross DB Assets	\$ 5,260	\$ 2,378	\$7,638	\$ 688
1999 Gross DB Assets	\$ 5,460	\$ 2,288	\$7,748	\$ 702

Note: Totals may not agree due to rounding

Section V

Financial Activity

Section V -

Financial Activity

Summary of Financial Activity

(Dollars in Millions)	PERS			TRS			SERS
	Plan 1 Fund 631	Plan 2 Fund 641	Total	Plan 1 Fund 632	Plan 2/3 Fund 642	Total	Plan 2/3 Fund 633
Beginning Fund Value	\$ 11,082	\$ 12,036	\$ 23,119	\$ 9,002	\$ 3,006	\$ 12,008	\$ 0
Adjustment	—	—	—	—	—	—	—
Adjusted Fund Value	\$ 11,082	\$ 12,036	\$ 23,119	\$ 9,002	\$ 3,006	\$ 12,008	\$ 0
Revenue							
Contributions							
Employee*	\$ 72	\$ 105	\$ 177	\$ 58	\$ 13	\$ 70	\$ 7
Employer	187	105	292	183	75	258	8
Total Contributions	\$ 259	\$ 210	\$ 469	\$ 241	\$ 88	\$ 329	\$ 15
Investment Return	\$ 53	\$ 151	\$ 204	\$ 1,142	\$ 390	\$ 1,532	\$ (104)
Restorations	2	1	3	2	0	2	0
Transfers In	0	0	0	0	0	1	1,902
Miscellaneous	0	0	0	5	2	7	0
Total Revenue	\$ 315	\$ 362	\$ 677	\$ 1,389	\$ 480	\$ 1,870	\$ 1,813
Disbursements							
Withdrawn							
Annuities/ Misc.	—	—	—	\$ 113	\$ 0	\$ 113	\$ —
Monthly Benefits	644	46	689	466	5	471	0
Refunds	9	57	66	2	5	7	0
Total Benefits	\$ 652	\$ 103	\$ 756	\$ 581	\$ 10	\$ 591	\$ 0
Transfers Out	\$ 0	\$ 1,903	\$ 1,903	\$ 0	\$ 77	\$ 78	\$ 23
Expenses	1	0	1	5	2	7	0
Total Disbursements	\$ 653	\$ 2,006	\$ 2,660	\$ 586	\$ 90	\$ 676	\$ 23
Ending Fund Value	\$ 10,744	\$ 10,392	\$ 21,136	\$ 9,805	\$ 3,397	\$ 13,202	\$ 1,790

Note: Totals may not agree due to rounding.

*Does not include Plan 3 Contributions

The "Ending Fund Value" corresponds to "Net DB Assets" in System Assets.

Summary of Financial Activity

(Dollars in Millions)				
	LEOFF			WSP
	<i>Plan 1 Fund 819</i>	<i>Plan 2 Fund 829</i>	<i>Total</i>	<i>Plan 1 Fund 615</i>
Beginning Fund Value	\$ 5,460	\$ 2,288	\$ 7,748	\$ 702
Adjustment	—	—	—	—
Adjusted Fund Value	\$ 5,460	\$ 2,288	\$ 7,748	\$ 702
Revenue:				
Contributions				
Employee	\$ 3	\$ 47	\$ 50	\$ 3
Employer/State	3	47	50	0
<i>Total Contributions</i>	\$ 6	\$ 93	\$ 99	\$ 3
Investment Return	\$ 26	\$ 9	\$ 35	\$ 3
Restorations	0	0	0	0
Transfers In	0	0	0	0
Miscellaneous	0	0	0	0
Total Revenue	\$ 33	\$ 102	\$ 135	\$ 6
Disbursements				
Monthly Benefits	\$ 232	\$ 1	\$ 233	\$ 20
Refunds	0	11	11	0
<i>Total Benefits</i>	\$ 232	\$ 12	\$ 244	\$ 20
Transfers Out	\$ 0	\$ 0	\$ 0	\$ 0
Expenses	0	0	0	0
Total Disbursements	\$ 232	\$ 12	\$ 244	\$ 20
Ending Fund Value	\$ 5,260	\$ 2,378	\$ 7,638	\$ 688

Note: Totals may not agree due to rounding.

The "Ending Fund Value" corresponds to "Net DB Assets" in System Assets.

Section VI

Actuarial Assumptions and Experience

Actuarial Assumptions and Experience

Economic Assumptions

Growth in Membership

It is assumed that the number of active members in each system will increase according to the rates shown below:

<u>PERS</u>	<u>TRS</u>	<u>SERS</u>	<u>LEOFF</u>	<u>WSP</u>
1.25%	.90%	1.25%	1.25%	1.25%

Future Salaries

General (inflation) salary increases of 4.5% apply to all members. This excludes longevity, merit or step increases that usually apply to members in the early part of their careers.

Post-retirement Increases

PERS Plan 1, TRS Plan 1: A uniform COLA as described in the plan provisions.

LEOFF Plan 1: Assumes 3.50% increases. (This rate is equal to assumed 3.50% increases in the Average CPI Seattle, Washington, Urban Wage Earners and Clerical Workers, all items).

WSP Plan 1, PERS Plan 2, TRS Plan 2/3, SERS Plan 2/3 and LEOFF Plan 2: Assumes 3.00% increases. (This rate is the maximum allowed under the plan provisions, given the higher assumed 3.50% increases in the Average CPI Seattle, Washington, Urban Wage Earners and Clerical Workers, all items).

Interest on Member Contributions

All systems: Interest on member contributions is assumed to accrue at an annual rate of 5.5 percent, compounded quarterly.

Return on Investment Earnings

All systems: The future investment earnings on the assets of the systems are assumed to accrue at an annual rate of 8 percent, compounded annually.

Valuation of Assets

All systems: Valuation assets are at market value with gains/losses recognized over a four-year period. For the valuation year 2000 and thereafter, 25 percent of the gain/loss is recognized each year. For the 1999 valuation year the gain/loss is recognized over three years at 50%, 30% and 20%.

The gain or loss is calculated on assets held by the State Investment Board.

The gain/loss is calculated as actual earnings in excess of earnings based on the valuation interest rate.

Administrative Expenses

All systems: The administrative expenses of these systems are paid primarily by the employers. This cost will be added to the contribution rates derived within this report. No allowance is made for future expenses in the actuarial determinations set out in this report.

Demographic Assumptions

Probability of Service Retirement:

PERS/SERS						
Age	Plan 1		Plan 2/3 Service less than 30 years		Plan 2/3 Service greater than or equal to 30 years*	
	Male	Female	Male	Female	Male	Female
50	60%	32%	---	---	---	---
51	60%	32%	---	---	---	---
52	48%	32%	---	---	---	---
53	48%	32%	---	---	---	---
54	48%	43%	---	---	---	---
55	33%	33%	2%	5%	6%	7%
56	25%	28%	2%	5%	4%	6%
57	25%	28%	3%	6%	5%	6%
58	25%	28%	3%	6%	5%	8%
59	39%	60%	3%	8%	5%	10%
60	19%	25%	4%	10%	7%	11%
61	26%	19%	6%	10%	10%	15%
62	45%	35%	46%	62%	59%	70%
63	31%	23%	30%	26%	30%	31%
64	38%	33%	40%	40%	47%	46%
65	55%	51%	64%	64%	40%	50%
66	33%	31%	50%	40%	50%	33%
67	33%	31%	50%	40%	67%	50%
68	33%	31%	50%	40%	67%	50%
69	33%	31%	50%	40%	67%	50%
70+	100%	100%	100%	100%	100%	100%

*An additional rate is added for the year when the service is equal to 30 years to reflect the accumulated difference in rates for over 30 years and those less than 30 years.

Probability of Service Retirement Continued:

TRS								
Age	Plan 1		Plan 1		Plan 2/3		Plan 2/3	
	Service less than or more than 30 years		Service equal to 30 years		Service less than 30 years		Service greater than or equal to 30 years*	
	Male	Female	Male	Female	Male	Female	Male	Female
-53	20%	25%	40%	30%	---	---	---	---
54	25%	20%	40%	30%	---	---	---	---
55	25%	20%	40%	30%	2%	5%	6%	7%
56	20%	25%	35%	30%	2%	5%	4%	6%
57	20%	25%	35%	30%	3%	6%	4%	7%
58	20%	25%	40%	30%	3%	6%	5%	9%
59	25%	25%	45%	30%	3%	8%	5%	9%
60	25%	20%	45%	30%	4%	10%	6%	12%
61	25%	20%	60%	35%	6%	10%	10%	17%
62	40%	35%	60%	55%	45%	60%	48%	59%
63	35%	30%	60%	50%	30%	25%	35%	30%
64	35%	30%	60%	50%	40%	40%	36%	43%
65	60%	50%	90%	90%	67%	70%	57%	75%
66	30%	30%	90%	90%	50%	40%	50%	50%
67	30%	30%	90%	90%	50%	40%	67%	50%
68	30%	30%	90%	90%	50%	40%	67%	50%
69	30%	30%	90%	90%	50%	40%	67%	50%
70+	100%	100%	100%	100%	100%	100%	100%	100%

*An additional rate is added for the year when the service is equal to 30 years to reflect the accumulated difference in rates for over 30 years and those less than 30 years.

Probability of Service Retirement Continued:

LEOFF		
Age	Plan 1	Plan 2
50	14%	7%
51	5%	9%
52	10%	12%
53	15%	59%
54	15%	45%
55	15%	47%
56	10%	33%
57	10%	33%
58	10%	50%
59	20%	50%
60	20%	50%
61	40%	50%
62	40%	50%
63	25%	50%
64	25%	50%
65+	100%	100%

WSP	
Age	Probability
40-50	45%
51-55	40%
56-59	35%
60+	100%

Mortality

In 1995 the Society of Actuaries released the Uninsured Pensioners' Mortality Table (UP94). With adjustments, this table is applicable for large pension plans.

To account for the experience of particular groups of employees, an age setback or setforward was applied to the UP94 table. For example, with a three-year setback, a 50-year-old is assumed to have the mortality of a 47-year-old. With a three-year setforward, a 50-year-old is assumed to have the mortality of a 53-year-old.

Service Retirees:

- ✓ TRS uses an age setback of three years for men and one year for women.
- ✓ PERS/SERS uses the UP94 table with no adjustments.
- ✓ LEOFF and WSP use an age setforward of one year.

Disability Retirees:

- ✓ PERS/SERS uses a two-year setforward with a minimum rate of 5.75 percent for males and 3.25 percent for females.
- ✓ TRS uses the greater of the table for active members or 2.5 percent for males and 2.0 percent for females.
- ✓ LEOFF uses a setforward of two years with a minimum rate of 0.5 percent.
- ✓ WSP disability retirees are not paid from retirement system funds.

Uninsured Pensioners' Mortality Table (UP94):

All Systems		
Actives, Retirees and Beneficiaries		
Age	Male	Female
20	.0545%	.0305%
25	.0711%	.0313%
30	.0862%	.0377%
35	.0915%	.0514%
40	.1153%	.0763%
45	.1697%	.1046%
50	.2773%	.1536%
55	.4758%	.2466%
60	.8576%	.4773%
65	1.5629%	.9286%
70	2.5516%	1.4763%
75	4.0012%	2.4393%
80	6.6696%	4.2361%
85	10.4559%	7.2836%
90	16.4442%	12.5016%
95	25.1189%	20.0229%

Probability of Disablement:

PERS/SERS				
Age	Plan 1		Plan 2/3	
	Male	Female	Male	Female
20	.0011%	.0011%	.0191%	.0151%
25	.0041%	.0042%	.0191%	.0151%
30	.0123%	.0126%	.0191%	.0151%
35	.0310%	.0319%	.0284%	.0217%
40	.0690%	.0710%	.0571%	.0475%
45	.1399%	.1438%	.1285%	.1105%
50	.2631%	.2704%	.4614%	.2441%
55	.4655%	.4787%	.8908%	.6906%
60*	.3095%	.3095%	.6479%	.5485%
64	0	0	1.0940%	1.0940%

**No Plan 1 disabilities are assumed for members beyond 60 years of age.*

Probability of Disablement Continued:

TRS Plan 1, 2 and 3	
<u>Age</u>	<u>Probability</u>
20	.0010%
25	.0068%
30	.0140%
35	.0240%
40	.0320%
45	.0705%
50	.1220%
55	.2500%
60 *	.3500%
64	.5387%

LEOFF		
<u>Age</u>	<u>Plan 1</u>	<u>Plan 2</u>
20	.10%	.01%
25	.10%	.01%
30	.80%	.01%
35	1.49%	.02%
40	2.18%	.04%
45	3.93%	.07%
50	6.82%	.25%
55	9.62%	n/a
58+	11.32%	n/a

**No TRS Plan 1 disabilities are assumed for members beyond 60 years of age.*

LEOFF Plan 1 disability retirements are assumed to continue after service retirement begins.

WSP Probability of Disablement

At all ages, the probability of disablement is .2 percent.

Probability of Termination in the Next Year:

PERS/SERS Plan 1, 2 and 3		
Years of Service	Male	Female
0	22.62%	18.18%
1	14.60%	13.95%
2	9.75%	11.32%
3	6.30%	7.69%
4	5.12%	6.76%
5	4.40%	5.83%
6	4.16%	4.88%
7	3.68%	4.64%
8	3.54%	4.54%
9	3.39%	4.40%
10	3.20%	3.92%
11	2.96%	3.68%
12	2.47%	3.20%
13	2.22%	2.96%
14	1.98%	2.22%
15	1.73%	2.22%
16	1.24%	1.98%
17	0.90%	1.73%
18	0.80%	1.64%
19	0.70%	1.29%
20	0.60%	1.14%
21	0.50%	1.00%
22	0.40%	0.75%
23	0.30%	0.55%
24	0.25%	0.50%
25 +	0.25%	0.40%

TRS Plan 1, 2 and 3		
Years of Service	Male	Female
0	7.50%	7.00%
1	7.50%	7.00%
2	6.00%	6.00%
3	5.10%	5.30%
4	4.50%	4.80%
5	3.90%	4.20%
6	3.40%	3.90%
7	2.90%	3.40%
8	2.50%	3.00%
9	2.10%	2.50%
10	1.90%	2.20%
11	1.80%	2.00%
12	1.60%	1.65%
13	1.40%	1.49%
14	1.24%	1.31%
15	1.10%	1.20%
16	1.00%	1.10%
17	.90%	1.01%
18	.80%	.95%
19	.70%	.90%
20	.65%	.82%
21	.60%	.78%
22	.60%	.71%
23	.60%	.69%
24	.60%	.65%
25 +	.60%	.62%

Probability of Termination in the Next Year Continued:

LEOFF Plan 1 and Plan 2	
Years of Service	Probability
0	10.43%
1	4.88%
2	2.47%
3	2.27%
4	1.98%
5	1.88%
6	1.78%
7	1.69%
8	1.59%
9	1.49%
10	1.39%
11	1.29%
12	1.00%
13	.70%
14	.50%
15+	.30%

WSP	
Age	Probability
20	2.66%
21	2.47%
22	2.27%
23	2.08%
24	1.88%
25	1.69%
26	1.49%
27	1.29%
28	1.09%
29	1.09%
30	1.00%
31	1.00%
32	1.00%
33	.90%
34	.90%
35	.90%
36	.80%
37	.80%
38	.80%
39	.80%
40	.70%
41	.70%
42	.70%
43+	.60%

Step Salary Increases:

The following tables only include step increases. They do not include general salary increases. The percent increase relates to the two prior years.

PERS/SERS Plan 1, 2 and 3		
Years of Service	Percent Increases	Multiple of Entry Salary
1	4.7%	1.047
2	3.8%	1.087
3	3.0%	1.119
4	2.5%	1.147
5	1.9%	1.169
6	1.4%	1.186
7	1.0%	1.197
8	.7%	1.206
9	.5%	1.212
10	.5%	1.218
11	.4%	1.223
12	.4%	1.228
13	.3%	1.231
14	.2%	1.234
15	.2%	1.236
16	.2%	1.239
17 +	0%	1.239

TRS Plan 1, 2 and 3		
Years of Service	Percent Increase	Multiple of Entry Salary
1	5.0%	1.050
2	4.5%	1.097
3	4.2%	1.143
4	3.8%	1.187
5	3.6%	1.230
6	3.5%	1.273
7	3.3%	1.315
8	3.2%	1.357
9	3.1%	1.399
10	3.0%	1.441
11	3.0%	1.484
12	3.0%	1.528
13	3.0%	1.574
14	2.5%	1.614
15	1.5%	1.638
16 +	.5%	—

Step Salary Increases Continued:

LEOFF Plan 1 and Plan 2		
Years of Service	Percent Increases	Multiple of Entry Salary
1	9.0%	1.090
2	7.0%	1.166
3	5.0%	1.225
4	4.0%	1.274
5	2.5%	1.305
6	2.0%	1.332
7	1.5%	1.352
8	1.4%	1.370
9	1.3%	1.388
10	1.2%	1.405
11	1.1%	1.420
12	1.0%	1.435
13	1.0%	1.449
14	.9%	1.462
15	.8%	1.474
16	.7%	1.484
17	.6%	1.493
18 +	.5%	—

WSP		
Years of Service	Percent Increase	Multiple of Entry Salary
1	6.0%	1.06
2	6.0%	1.12
3	5.0%	1.18
4	5.0%	1.24
5	4.5%	1.29
6	3.0%	1.33
7 +	0.0%	—

Final Average Salary

Salary is averaged over the period set out in the plan provisions. In addition, PERS Plan 1 is loaded by 6%, and TRS Plan 1 is loaded by 2% for the retirement cash out of sick leave/ vacation.

Other Assumptions

Other assumptions include the recognition of service earned in another plan (portability), the probability of a Vested Terminated Member not withdrawing from the plan, and the probability of being married. More details of these and other assumptions can be found in the last experience study (1989 to 1994).

Economic Experience

	PERS		TRS		LEOFF		WSP
	Plan 1	Plan 2	Plan 1	Plan 2/3	Plan 1	Plan 2	Plan 1
Investment Return on Valuation Assets							
Actual (new method)	10.2%	9.9%	11.9%	11.7%	10.2%	9.8%	10.1%
Actual (old method)	8.3%	8.0%	13.3%	13.1%	8.4%	7.9%	8.3%
Expected	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%
Salary Increases							
Actual	4.9%	6.0%	6.4%	8.4%	2.5%	5.9%	3.8%
Expected	4.0%		4.0%		4.0%		4.0%
	(plus merit)		(plus merit)		(plus merit)		(plus merit)
Interest on Members Contributions¹							
Actual	5.5%		5.5%		5.5%		5.5%
Expected	5.5%		5.5%		5.5%		5.5%
Membership Growth							
Actual*	1.84%		1.87%		1.22%		4.65%
Expected	1.25%		0.90%		1.25%		1.25%
Inflation²							
Actual	NA	3.10%	NA	3.10%	3.10%	3.10%	NA
Expected	NA	3.50%	NA	3.50%	3.50%	3.50%	NA
Post-Retirement Increases³							
Actual	Uniform COLA	3.00%	Uniform COLA	3.00%	3.10%	3.00%	2.00%
Expected	Uniform COLA	3.00%	Uniform COLA	3.00%	3.50%	3.00%	2.00%

¹ Interest paid on members contributions is determined by the Director of Retirement Systems. Interest is compounded quarterly.

² Urban Wage Earners and Clerical Workers, Seattle WA, All Items, Series A.
The increase from 1998 to 1999 was 3.10%, and is used in the 2000 post-retirement increase calculations.

³ The PERS Plan 1 and TRS Plan 1 uniform COLA increase amount on July 1, 2000 was \$1.08 per month for each year of service.
The WSP increase is a "simple" 2% as prescribed in statute.
The LEOFF Plan 1 increase is granted on April 1st at the prescribed inflation rate, which was 3.10% for 2000.
The PERS Plan 2, TRS Plan 2/3, SERS Plan 2/3 and LEOFF Plan 2 increase is the prescribed inflation rate, subject to a 60% safety net and a maximum increase of 3% over the year. The increase granted on July 1, 2000 was the maximum 3%.

* Membership growth is for all the plans in the system.

Demographic Experience

Ratio of Actual Experience to Expected							
	PERS		TRS		LEOFF		WSP
	Plan 1	Plan 2	Plan 1	Plan 2/3	Plan 1	Plan 2	Plan 1
Mortality¹	97%	82%	94%	72%	84%	58%	31%
Retirement	98%	91%	104%	58%	88%	10%	61%
Termination	176%	186%	212%	171%	1,200%	162%	179%

¹ Mortality of service retirees.

Actuarial Gain and Loss

Change in Employer and State Contribution					
	PERS	TRS	SERS*	LEOFF**	WSP***
1999 Contribution Rate	3.21 %	5.38 %	3.21 %	2.31 %	0.00 %
Legislation	(1.67)%	(2.63)%	(1.67)%	(0.51)%	0.00 %
Adjusted Contribution Rate	1.54 %	2.75 %	1.54 %	1.80 %	0.00 %
Economic Gains and Losses	0.20 %	(1.41)%	0.01 %	0.05 %	(0.21)%
Demographic Gains and Losses	0.07 %	0.12 %	0.16 %	0.00 %	(0.08)%
Other Gains and Losses	(0.18)%	0.92 %	(0.41)%	(0.24)%	(1.89)%
Contribution from SERS for PERS UAAL	—	—	(0.08)%	—	—
2000 Contribution Rate	1.63 %	2.38 %	1.22 %	1.61 %	0.00 %
Change in Normal Costs					
1999 Normal Cost	1.70 %	2.59 %	1.70 %	2.31 %	(15.43)%
Legislation	(0.82)%	(0.90)%	(0.82)%	(0.51)%	(6.74)%
Adjusted Normal Cost	0.88 %	1.69 %	0.88 %	1.80 %	(22.17)%
Assets	(0.06)%	(0.66)%	(0.14)%	(0.03)%	(1.11)%
Salaries	0.08 %	0.18 %	(0.11)%	0.00 %	(0.81)%
Growth	0.25 %	0.40 %	0.26 %	0.08 %	1.71 %
Total Economic	0.27 %	(0.08)%	0.01 %	0.05 %	(0.21)%
Termination/Return to Work	0.04 %	0.08 %	0.17 %	0.01 %	(0.02)%
Retirement	(0.01)%	0.00 %	(0.01)%	(0.01)%	(0.06)%
Total Demographic	0.03 %	0.08 %	0.16 %	0.00 %	(0.08)%
Other Gains/Losses	(0.13)%	0.07 %	(0.41)%	(0.24)%	(1.89)%
Total	1.05 %	1.76 %	0.64 %	1.61 %	(24.35)%
2000 Normal Cost	1.05 %	1.76 %	0.64 %	1.61 %	0.00 %
Change in UAAL Rate					
1999 UAAL Rate	1.51 %	2.79 %		(5.91)%	
Legislation	(0.85)%	(1.73)%		(1.43)%	
Adjusted UAAL Rate	0.66 %	1.06 %		(7.34)%	
Assets	(0.11)%	(1.51)%		(0.30)%	
Salaries	0.05 %	0.21 %		(0.12)%	
Growth	(0.01)%	(0.03)%		0.00 %	
Inflation (CPI)	0.00 %	0.00 %		(0.09)%	
Total Economics	(0.07)%	(1.33)%		(0.51)%	
Termination/Return to Work	0.04 %	0.04 %		0.01 %	
Retirement	0.00 %	0.00 %		0.00 %	
Total Demographic	0.04 %	0.04 %		0.01 %	
Other Gains/losses	(0.05)%	0.85 %		(1.27)%	
Total	0.58 %	0.62 %		(9.11)%	
2000 UAAL Rate	0.58 %	0.62 %		0.00 %	

*The SERS rate includes the UAAL rate for PERS Plan 1.

**The LEOFF contribution rate is the State's portion for Plan 2 (20% of the Normal Cost) plus the UAAL rate for Plan 1.

***WSP now uses the Aggregate Funding Method.

Section VII

Provisions of the Systems

Provisions of the Systems

Summary of the Provisions of the Washington Retirement Systems

All actuarial calculations in this report are based upon the following provisions of the individual retirement systems which include the Laws of 2001.

- ✓ Public Employees Retirement System, Chapter 41.40 41.31, 41.31A RCW;
- ✓ Teachers Retirement System, Chapter 41.32 41.31, 41.31A RCW;
- ✓ School Employees Retirement System, Chapter 41.35, 41.31A RCW;
- ✓ Law Enforcement Officers and Fire Fighters Retirement System, Chapter 41.26 RCW; and
- ✓ Washington State Patrol Retirement System, Chapter 43.43 RCW.

The benefit and contribution provisions of these laws are summarized briefly for reference purposes. This summary encompasses the major provisions of the law. It does not attempt to cover all of the detailed provisions. In addition to the benefit provisions specific to each system, PERS, TRS, SERS, LEOFF and WSP are also subject to portability provisions of Chapter 41.54 RCW and funding provisions of Chapter 41.45 RCW.

Plan Effective Dates:

	PERS		TRS			SERS	
	<i>Plan 1</i>	<i>Plan 2</i>	<i>Plan 1</i>	<i>Plan 2</i>	<i>Plan 3</i>	<i>Plan 2</i>	<i>Plan 3</i>
Opened	1947	1977	1938	1977	1996	2000	2000
Closed	1977	--	1977	1996	--	--	--

	LEOFF		WSP
	<i>Plan 1</i>	<i>Plan 2</i>	<i>Plan 1</i>
Open	1970	1977	1947
Closed	1977	--	--

Contribution Rates:

Plan 1

The PERS 1 and TRS 1 member contribution rate is six percent. The LEOFF 1 member and employer rate is 6 percent if there is an unfunded liability and zero if there is a surplus. Employers and the state absorb all increases in rates.

WSP

The WSP 1 member rate was reduced from 7 percent to 3 percent on July 1, 2000. Effective July 1, 2001 the member rate was reduced to 2 percent. If the Aggregate Normal Cost were to rise above 4 percent, the member would share half the cost with the employer.

Plan 2

The member contribution rate is half of the amount necessary to fund the Plan. Employers and the state pay the other half.

PERS 2 and TRS 2 members contribution rates are not affected by gain-sharing as these costs are borne by the Employers.

Plan 3

Employees do not contribute to the defined benefit plan. Employers pay the full contribution rate.

Retirement Eligibility:

	PERS		TRS			SERS	
	<i>Plan 1</i>	<i>Plan 2</i>	<i>Plan 1</i>	<i>Plan 2</i>	<i>Plan 3</i>	<i>Plan 2</i>	<i>Plan 3</i>
Normal Retirement	60 & 5 55 & 25 30 yrs	65 & 5	60 & 5 55 & 25 30 yrs	65 & 5	65 & 10 65 & 5*	65 & 5	65 & 10 65 & 5*
Early Retirement	n/a	55 & 20	n/a	55 & 20	55 & 10	55 & 20	55 & 10

**If one year is after age 54, or five years were earned under Plan 2 (by July 1, 1996 for TRS and September 1, 2000 for SERS)*

	LEOFF		WSP
	<i>Plan 1</i>	<i>Plan 2</i>	<i>Plan 1</i>
Normal Retirement	50 & 5	53 & 5	55 & 5 25 yrs
Early Retirement	n/a	50 & 20	n/a

Vesting

Members are entitled to a retirement benefit after five years of service. Members who leave service and do not withdraw their accumulated contributions are eligible for a continuing benefit upon reaching normal retirement age.

Plan 3 vesting is five or ten years as described above under retirement eligibility.

Service Retirement Benefit Formula:

Plan 1

Benefit is $2\% \times \text{salary} \times \text{years of service}$. A graded scale applies to LEOFF 1 members with less than 20 years of service. Plan 1 benefits are capped at 60% of salary, WSP benefits are capped at 75% of salary. Salary is averaged over one year for LEOFF 1, and over two years for PERS 1, TRS 1 and WSP.

Plan 2

Benefit is $2\% \times \text{salary} \times \text{years of service}$. Salary is averaged over five years.

Plan 3

Benefit is $1\% \times \text{salary} \times \text{years of service}$. Salary is averaged over five years.

Pre-Retirement Adjustments:

LEOFF 2 and Plan 3 members who have completed 20 years of service will have their retirement allowance increased by 0.25% for each month from the date of separation to the date the retirement allowance starts.

Post-Retirement Adjustments:

Adjustment Type	PERS		TRS		SERS
	<i>Plan 1</i>	<i>Plan 2</i>	<i>Plan 1</i>	<i>Plan 2/3</i>	<i>Plan 2/3</i>
	Uniform COLA	CPI up to 3.0%	Uniform COLA	CPI up to 3.0%	CPI up to 3.0%

Adjustment Type	LEOFF		WSP
	<i>Plan 1</i>	<i>Plan 2</i>	<i>Plan 1</i>
	Full CPI	CPI up to 3.0%	CPI up to 3.0%

The Uniform COLA for PERS 1 and TRS 1 is payable to members age 66 or older who have been retired at least one year. An annual increase is granted each July 1 to eligible members. The initial annual increase amount on July 1, 1995 was 59 cents per month per year of service. The annual increase amount is calculated as the previous annual increase amount plus any gain-sharing increase amount in the year, all increased by three percent. The annual increase amount was \$1.11 on July 1, 2001. Gain-sharing is described below.

Minimum Benefit

The minimum benefit for PERS 1 and TRS 1 on July 1, 1995 was \$24.22 per month per year of service. Beginning July 1, 1996 the minimum benefit is increased by the Uniform COLA increase amount. The minimum benefit was \$29.44 on July 1, 2001.

The minimum benefit for WSP on July 1, 1997 was \$20.00 per month per year of service. Beginning July 1, 1999, the minimum benefit was increased by the Uniform COLA increase amount each year. The minimum was increased to \$20.77 on July 1, 1999, and to \$21.56 on July 1, 2000, and \$22.38 on July 1, 2001. Effective January 1, 2003 the minimum will be increased by 3% each year.

Withdrawal From Membership

Accumulated employee contributions plus interest are refunded upon withdrawal from membership. The current interest rate is 5.5 percent compounded quarterly.

Gain-sharing

Gain-sharing applies to PERS, TRS and SERS and is the enhancement of benefits for Plan 1 and Plan 3. Gain-sharing applies if there is an extraordinary investment gain as set out in Chapter 41.31, 41.31A RCW (compound average annual return in excess of ten percent over a four year period).

The first gain-sharing was on July 1, 1998; thereafter, it occurs on January 1 of even-numbered years. Gain-sharing is given to Plan 1 as an additional Uniform COLA increase amount. Gain-sharing is given to Plan 3 as a transfer payment from the Plan 2 and Plan 3 defined benefit plan assets to the Plan 3 defined contribution plan. PERS 2, TRS 2 and SERS 2 members contribution rates are not affected by gain-sharing as these costs are borne by the Employers.

Laws of 2001

- Contribution rates were adopted in 2001 based on the 1999 actuarial valuations, but using new economic assumptions (8% interest, 4.5% salary).

- WSP Plan 1 member contribution rates are decreased from 3% to 2% from July 1, 2001. In future, the member rate will be set at the greater of 2% or the employer rate. The COLA is changed to be based on the CPI with a maximum of 3% per year. Voluntary overtime is to be excluded from pensionable salary.
- WSP Plan 2 is created effective January 1, 2003 with a new benefit structure.